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APPENDICES

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APPENDIX A: ENVIRONMENTAL SIGNIFICANCE CHECKLIST

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Section VI following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

The *Initial Study* checklist was completed during the scoping process prior to the completion of the technical studies and was preliminary. This environmental significance checklist reflects the conclusions reached after the completion of the technical studies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	x
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	x
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	x
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	x
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	x
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	x
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	x
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	x
ii) Strong seismic ground shaking?	☐	☐	☐	x
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS –				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	x
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	x
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	x
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	x	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	x	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	x	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	x	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	x	☐
f) Otherwise substantially degrade water quality?	☐	☐	x	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	x
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	x
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	x
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	☐	x
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	x
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	x
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	x
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	x
XI. NOISE –				
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	x	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	x	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	x	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	x	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	x
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	x
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	x
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	x
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	x
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	x
Police protection?	☐	☐	☐	x
Schools?	☐	☐	☐	x
Parks?	☐	☐	☐	x
Other public facilities?	☐	☐	☐	x

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	x
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	x
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	x	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	x
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	x
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	x
e) Result in inadequate emergency access?	☐	☐	☐	x
f) Result in inadequate parking capacity?	☐	☐	☐	x
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	x
XVI. UTILITIES AND SERVICE SYSTEMS –				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	x	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	x	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	x	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	x
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	x	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	x	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	x
XVII. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	x
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	x
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	x

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APPENDIX B: RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. there is no prudent and feasible alternative to using that land; and

2. the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs, which use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Use occurs when 1) the property is acquired for a transportation project, 2) there is an occupancy of land that is adverse to the preservationist purpose of Section 4(f), or 3) there is (are) proximity impact(s) that substantially impairs the purpose of the land (this is called constructive use).

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use.

As discussed in **Section 2.1.1.3 – Parks and Recreation** there are 11 city parks, three regional parks, two private golf courses, and one private racquet club in the vicinity of the project. The proposed fourth bore on the northern alignment like the current most northerly bore and the BART tunnel would pass underneath Grizzly Peak Open Space and the Sibley Volcanic Regional Preserve both owned by the East Bay Regional Park District. There would be no use of the overhead land. The FHWA does not consider subsurface facility as "use" and thus has determined that the northern alignment (both two- and three-lane alternatives) of the proposed Caldecott Improvement Project would not constitute a "use" of publicly owned land under Section 4(f) of the U.S. Department of Transportation Act of 1966 (see Figure A.1).

There are some parks that could potentially be sensitive to noise, which could be the type of proximity impact resulting in constructive use. However, the noise analysis for the project concluded that the build alternatives would result in a minimal level of noise increase and therefore, there would not be constructive use with the build alternatives.

As discussed in **Section 1.2.2- Alternative Development Process** and in **Section 1.2.6 – Alternatives Considered but Eliminated from Further Discussion** after resumption of work on the project early in 2004, more detailed studies were conducted addressing two and three lane tunnel alternatives on the southern and northern alignments. The findings of these studies showed that, if constructed, the southern

alternatives would not produce any operational benefits—and in fact, present a number of problems—when compared with the northern alternatives. In comparison, the southern alternatives would (1) require longer tunnels, which are more difficult to construct; (2) are more expensive to build; (3) require the acquisition of more right-of-way; (4) have greater potential geotechnical problems; (5) cause greater visual impacts; and (6) produce more excavated material. Constructing the southern alternatives would also cause impacts to riparian habitat and present substantial water quality issues, which would likely trigger storm water treatment controls.

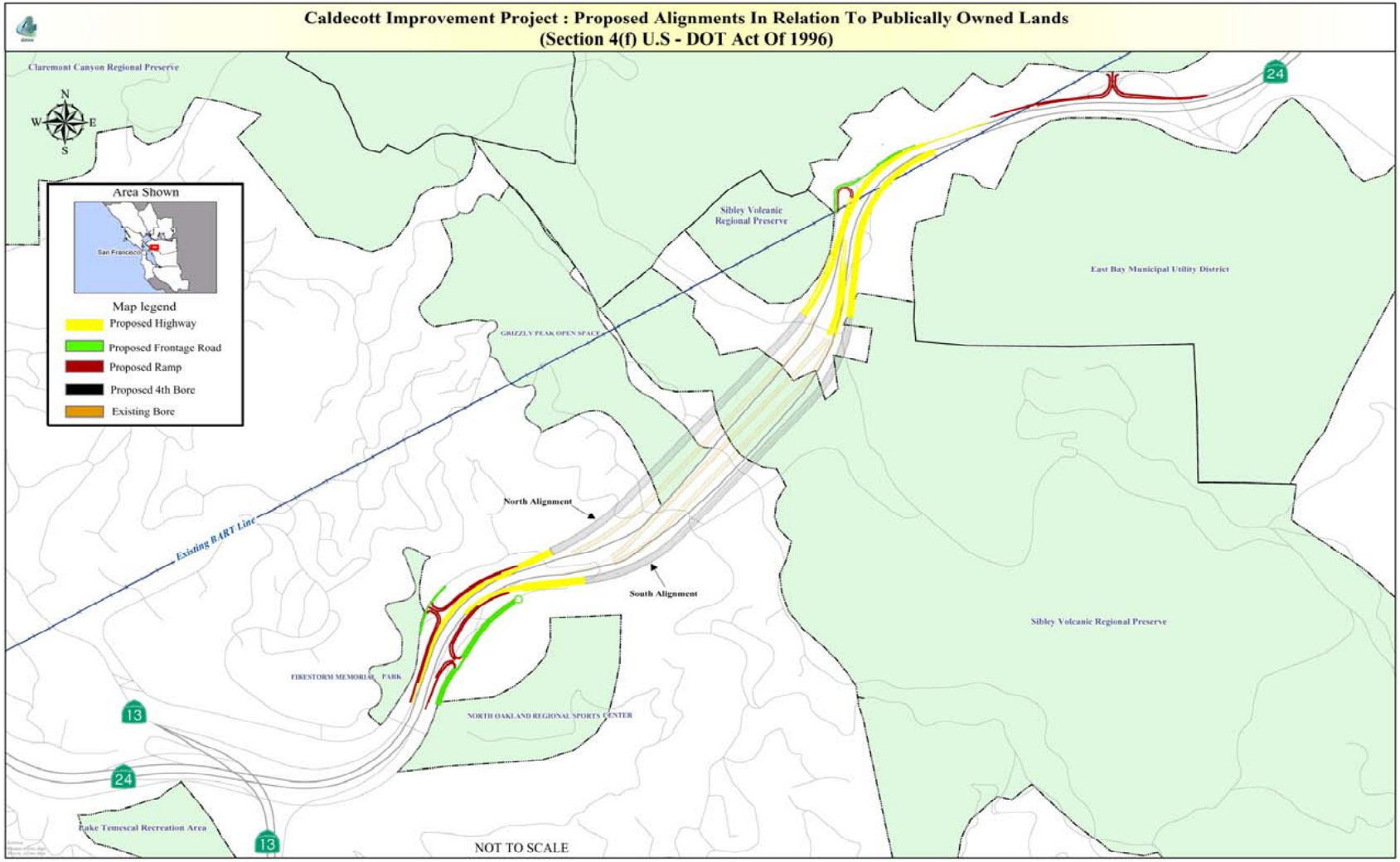
In addition, the southern alternatives would "use" Section 4(f) land at the North Oakland Regional Sports Center, west of the portal, and East Bay Regional Park land at the eastern portal of the proposed new tunnel. Specifically:

On Broadway, the realignment of the proposed frontage road would impact the North Oakland Regional Sports Center/Caldecott Field. For both the two and three lane alternatives, this would require taking approximately 310 square meters (0.031 hectares, 0.0766 acres) of right of way from the Sports Center. This amounts to about 0.002% of the Sports Center; and

Southern Alignment – The East Portal structure and a portion of the proposed highway would require the taking approximately 345 square meters (0.0345 hectares, 0.085acres) of right of way from the Sibley Volcanic Regional Preserve (SVRP) by the two lane alternative (0.0002% of SVRP land) and approximately 510 square meters (0.051 hectares, 0.126 acres, or 0.0003% of SVRP land) by the three lane alternative.

Given the findings of these studies, District 4 Management decided to eliminate the two southern alternatives from further study. At the August 25, 2004 Project Development Team (PDT) meeting for the project, the team members, including FHWA representatives, concurred with the recommendation. FHWA confirmed this is subsequent correspondence with the Department. Because the two southern alternatives were eliminated from further consideration and because the northern alternatives are prudent and feasible alternatives that are not subject to the provision of Section 4(f), FHWA has determined that the Caldecott Improvement Project does not trigger the provisions of Section 4(f).

Figure B.1 Section 4(f) Map



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APPENDIX C: TITLE VI POLICY STATEMENT

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086

Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

WILL KEMPTON
Director

"Caltrans improves mobility across California"

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APPENDIX D: MINIMIZATION AND/OR MITIGATION SUMMARY

The Department is required to comply with all applicable Federal and State laws, statutes, regulations, and policies that pertain to environmental protection, conservation, and mitigation. Federal and state environmental documents and permits from regulatory and permitting agencies often require mitigation for project impacts and for monitoring to ensure that mitigation measures are successful.

Mitigation measures for the proposed project are presented in Chapter 2 and are summarized in the Summary and in Table S-1.

An integrated tracking system known as Permits, Approvals, and Mitigation (PAM) has been developed by District 04 to convey environmental commitment information through the different project phases of environmental analysis, design, construction, and maintenance. This allows the Project Manager and the environmental units to track all permit requirements and mitigation commitments.

There are four forms that are completed throughout the life of the project. Form 1 (see Table D-1) is completed upon completion of the environmental phase of the project. It is a summary of the required permits and environmental commitments that must be incorporated into the project. Forms 2A and 2B (see Table D-2 and D-3) are completed during the Plans, Specifications, and Estimates (PS&E) phase. The design office responsible for the project completes these forms. Form 2A list all permits along with their expiration dates and construction windows governing construction activities. Form 2B shows whether the commitments have been incorporated into the PS&E or are to be accomplished by Contract Change Order, Maintenance, or a separate contract. Form 2A is signed by the Senior Environmental Planner, the Project Engineer, and the Project Manager certifying that all permit conditions and environmental commitments have been properly addressed as shown on forms 2A and 2B at the completion of the design phase. Form 3 (see Table D-4) will be completed by the Office of Construction to record all changes and additions to the environmental commitments or permit conditions made during the construction phase. After completion of the project, form 4 (see Table D-5) is completed by the environmental office to provide the maintenance office with information about site sensitivity and actions required to ensure compliance with the permit conditions or environmental commitments.

Table D-1 PAM Form 1

Form 1 **SUMMARY OF REQUIRED PERMITS AND ENVIRONMENTAL COMMITMENT -PS&E PHASE**

TO: Cristina Ferraz PROJECT MANAGER

ATTN.: Candace Kosior PROJECT ENGINEER

DATE:	1-Sep-05
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
RU/EA:	294900
P.M.	ALA 5.3/6.2 CC 0.0/1.3

Below is a summary of the required permits, and environmental commitments that must be incorporated into the PS&E, for this project. Please contact Gregory McCc at 510-286-6216

		Y/N	Mit. Plan Reqd (Y/N)	COMMENTS
PERMITS AND AGREEMENTS	CDFG 1601/03 Streambed Alteration Agreement.	N	N	
	BCDC: Bay Fill Permit	N	N	
	BCDC: Pub. Access Review	N	N	
	Coastal Dev. Permit: County	N	N	
	Coastal Dev. Permit: State	N	N	
	State Lands Lease Agreement	N	N	
	RWQCB: NPDES	Y		Best Management Practice will be incorporated to reduce discharge of pollutants during construction and permanently to the Maximum Extent Practicable
	RWQCB: Water Qual. Cert.	N		
	Endangered Species Act[1] Consultation	**S** **F**	N Y	
	USACOE 404: Nationwide	Y	Y	
	USACOE 404: Individual	N	N	
	USACOE Section 10 Permit	N	N	
	USCG Section 9 Permit	N		
ENVIRONMENTAL COMMITMENTS	Noise Attenuation	Y	Y	Project may include noise abatement measures such as noise barriers
	Erosion Control	Y	Y	Permanent design pollution prevention Best Management Practices and permanent treatment BMPs need to be evaluated during the design phase to determine feasibility
	Hazardous Materials Investigation/Treatment	N	N	Sampling/testing for aerially deposited lead (ADL), asbestos, and ground water contamination at the Plans, Specifications, and Estimates stage prior to construction of the project. If ADL and/or asbestos are found, special handling would be required that would include implementing a Department health and safety plan. If the potential for ground water contamination is present, the Department would manage any extracted ground water according to regulatory requirements.
	ESA (Archaeological)	N	N	
	ESA (Biology)	Y		Restrict vehicle and foot traffic near trees, prohibit fueling, equipment/material storage, and placement of fill or other materials over the root zone
	ESA (Historical)	N	N	
	ESA (Scenic Resources)	N		
	Wetland/Riparian Mitigation	Y	Y	Restoration of wetlands at a ration of 2:1
	Biological Mitigation	Y	Y	Final Tree Replacement and Planting Plan will be prepared and will include preliminary recommendations for tree replacement

A copy of the project PS&E must be sent to Environmental for review before finalization.

☐ **Attachments**

cc: Design, Senior Envir. Plan., File

OFFICE CHIEF OF ENVIRONMENTAL ANALYSIS

Ver 6.0 July '00

Table D-2 PAM Form 2A

FORM 2A: PERMITS, AGREEMENTS & MITIGATION (PAM) COMMITMENTS-DESIGN PHASE

TO: Raymond Pang ,OFFICE CHIEF

ATTN.: Vince Bonner ,BRANCH CHIEF

DESIGN OFFICE Design Contra Costa

DATE:	
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
RU/EA:	294900
P.E. CONTACT:	Candace Kosior (510) 622-5767
P.M.:	ALA 5.3/6.2 CC 0.0/1.3

- This form contains a summary of **attached** permits which contain permit conditions governing construction activities on this project.
- Please contact the Project Engineer or listed individuals above for additional information regarding specific information.

	Y/N	Permit No.	Issue Date	Exp. Date	Construction Window	Comments
CDFG 1601/03 Streambed Alteration Agreement.	N					
SF Bay Conservation & Development Commission	N N					
Coastal Dev. Permit: County	N					
Coastal Dev. Permit: State	N					
State Lands Lease Agreement	N					
RWQCB: NPDES Permit	N					
RWQCB: Contaminated Groundwater Disposal	N N					
Endangered Species Consultation Requirements	S F					
USACOE 404: Nationwide*	N					
USACOE 404: Individual	N					
USACOE Regional General	N					
USCG Section 9 Permit	N					
USACOE Section 10 Permit	N					

*Indicate NWP TYPE:_____

SENIOR, ENVIRONMENTAL PLANNER **DATE**
Office of Environmental Analysis

The project PS & E has been reviewed and all permits, agreements and mitigation commitments have been addressed as shown on Forms 2A & 2 B.

PROJECT ENGINEER **DATE** **PROJECT MANAGER** **DATE**

All permits and their conditions have been reviewed with the contractor and the contractor is aware of the permit conditions.

RESIDENT ENGINEER **DATE**

☐ **Attachments**

cc: Listed Contacts, Envir. Planning Senior

Ver 6.0- July '00

Table D-3 PAM Form 2B

FORM 2B: PERMITS, AGREEMENTS AND MITIGATION COMMITMENTS-DESIGN PHASE This form contains a summary of environmental commitments governing construction activities on this project, that may not have been included in the PS &E.										DATE:	9/1/2005
										CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
										EA:	294900
		TO BE ACCOMPLISHED BY:								P.E. CONTACT	
COMMITMENTS	P-Permits C-Commitments	Plans	Spec. Prov.	CCO's	Maintenance	Sep. Contract	Completion Date	Concurred By Date	**Comments**	PM:	ALA 5.3/6.2 CC 0.0/1.3
										Monitored By - - - - - - - - - - - - Frequency	CONTACTS
Noise Attenuation											
Erosion Control											
Hazardous Material Treatment											
NPDES (Storm Runoff Controls)											
Archaeological Resources											
Environmentally Sensitive Area											
Historical Resources											
Scenic Resources											
Wetland/Riparian Mitigation											
Biological Mitigation											

Ver 6.0 July '00

Table D-4 PAM Form 3

FORM 3: PERMITS, AGREEMENTS AND MITIGATION (PAM) COMMITMENTS - CONSTRUCTION PHASE

This form contains a summary of changes in environmental commitments made during the construction phase.

COMMITMENTS	P-Permits	TO BE ACCOMPLISHED BY...							ACTIONS REQD.	CONTACTS
		CCO			MAINTENANC	EPARATE CONTRACTS				
		Concurred By		Completion	Concurred By				Monitoring By	
		Environmenta Program Mng	Date	Date	Date	Funded EA:	Programmed Y/N	ADV. Date	Frequency	

All permit conditions and environmental commitments listed on Forms 2A, 2B and 3, pertaining to construction activities, have been fulfilled. All CCOs affecting environmental commitments have been concurred by the Office of Environmental Planning.

RESIDENT ENGINEER **DATE**

July-01-97

Table D-5 PAM Form 4

FORM 4: PERMITS, AGREEMENTS AND MITIGATION (PAM) COMMITMENTS - MAINTENANCE & OPERATION PHASE

To:_____ , Maintenance Manager Region-____

cc: _____ , Branch Chief Maintenance Services
_____ , Maintenance Manager Specialty Region-____

DATE:	09/01/2005
CO. RTE. KP:	04-ALA-24 KP 8.5/10.0 04-CC-24 KP 0.0/2.1
Date Completed	
P.E. Contact:	Candace Kosior
EA for MAINT.	294900
PM:	ALA 5.3/6.2 CC 0.0/1.3

Below is a summary of environmental mitigation commitments being carried out for this project which require either: (1) further direct action by Maintenance or (2) your awareness and protection of sensitive resources and/or mitigation sites. Please review and sign this form, maintain a copy and return the signed original to the Senior Environmental Planner listed below. If additional information is required please contact the listed individuals for additional information.

Commitments	(1) / (2)	Actions Required	Map Y/N	Monitoring By	Related Permits	Copy Attach. Y/N	Contact
Erosion Control							
Hazardous Material							
Hazardous Materials ESA							
Archaeological ESA							
Biology ESA							
Historical ESA							
Scenic Resources ESA							
Biology Mitigation							
Habitat Restor./Reveg.							
RWQCB-NPDES All Permits							

Senior Environmental Planner **Date** **Maintenance Manager**

July-01-97

APPENDIX E: LIST OF ACRONYMS

2N	two-lane tunnel North
3N	three-lane tunnel North
2S	two-lane tunnel South
3S	three-lane tunnel South
ABAG	Association of Bay Area Government
ACCMA	Alameda County Congestion Management Agency
ADA	Americans with Disabilities Act
ADL	Aerially Deposited Lead
ALA	Alameda
APE	Area of Potential Effect
ASR	Archaeological Survey Report
AW	Alameda Whipsnake
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BMPs	Best Management Practice
Caltrans	California Department of Transportation
CC	Contra Costa
CCTA	Contra Costa Transportation Authority
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERFA	Community Environmental Response Facilitation Act of 1992
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFGC	California Fish and Game Commission
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database

CNPPA	California Native Plant Protection Act
CO	Carbon monoxide
CRHR	California Register of Historic Resources
CRLF	California Red-Legged Frog
CTP	Countywide Transportation Plan
CTS	California Tiger Salamander
CWA	Clean Water Act
dB	Decibel
dBA	A weighted decibel
Department	California Department of Transportation
DOT	Department of Transportation
EA	Environmental Assessment
EB	Eastbound
EBMUD	East Bay Municipal Utility District
ED	Environmental Document
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Act
ESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GPS	Global Positioning System
GSRD	Gross Solids Removal Device
HPSR	Historic Property Survey Report
HOV	High Occupancy Vehicle

HRER	Historic Resources Evaluation Report
I-580	Interstate 580
I-680	Interstate 680
IES	Intermittent/Ephemeral Stream
ISA	Initial Site Assessment
ITIP	Inter-regional Transportation Improvement Program
km	kilometer
km/h	kilometer per hour
kp	kilo-post
Ku	Undivided Great Valley Sequence
Lamorinda	Lafayette/Moraga/Orinda
LOS	Level of Service
LU	Landscape Unit
MCE	Maximum Credible Earthquake
MEP	Maximum Extent Practicable
mi	mile
MIS	Major Investment Study
MLD	Most Likely Descendent
MOU	Memorandum of Understanding
mph	mile per hour
MTC	Metropolitan Transportation Commission
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NATM	New Austrian Tunneling Method
NB	Northbound
NEPA	National Environmental Policy Act
NES	Natural Environmental Study
NFPA	National Fire Protection Agency
NHPA	National Historic Preservation Act of 1966

NOA	Naturally Occurring Asbestos
NOI	Notice of Intent
NOP	Notice of Preparation
NOX	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OH	Overhead
OHWM	Ordinary High Water Mark
OMC	Operations, Maintenance, & Control
OSHA	Occupational Safety & Health Act
PA	Programmatic Agreement
PA&ED	Project Approval and Environmental Document
PDT	Project Development Team
PIR	Paleontological Resources Identification
PM	Post Mile
PM2.5	Particulate Matter 2.5
PM10	Particulate Matter 10
PPV	Peak Particle Vibrations
PRC	Public Resources Code
PS&E	Plans, Specifications, and Estimates
PSR	Project Study Report
PUC	Public Utilities Commission
PYE	Person Years of Employment
RCRA	Resource Conservation and Recovery Act of 1976
RM2	Regional Measure 2
RTP	Regional Transportation Plan
RTIP	Regional Transportation Improvement Program
R/W	Right-of-Way

RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SB	Southbound
SEE	Safety Evaluation Event
SES	Subway Environment Simulation
SHOPP	State Highway Operations and Protection Program
SHPO	State of California Office of Historic Preservation
SIP	State Implementation Plan
SR	State Route
STIP-IIP	State Transportation Improvement Plan-Inter-regional Improvement Program
STIP-RIP	State Transportation Improvement Plan-Regional Improvement Program
SW	Slope Wetland
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TBD	To Be Determined
TCRP	Transportation Congestion Relief Program
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Plan
TKN	Total Kjeldahl Nitrogen
TMP	Traffic Management Plan
TNAP	Traffic Noise Analysis Protocol
TSCA	Toxic Substance Control Act
TSM	Transportation System Management
TSS	Total Suspended Solids
UG	Underground
U.S.	United States
USACE	United States Army Corps of Engineers

USDOT	United States Department of Transportation
USC	United States Code
USFWS	United States Fish and Wildlife Service
WB	Westbound
WMAC	Waste Management of Alameda County
WPCP	Water Pollution Prevention Plan

APPENDIX F: LIST OF TECHNICAL STUDIES

The studies and reports that provided technical information for this document are available for review at Caltrans District 4 Office, 111 Grand Avenue, Oakland, California. The following reports were prepared specifically for this project:

Air Quality Impact Report, Caltrans District 4 Office of Environmental Engineering, April 2006

Air Quality Impact Report (Addendum), Caltrans District 4 Office of Environmental Engineering, October 2005

Archaeological Survey Report, Caltrans District 4 Office of Cultural Resource Studies, June 2004

Caldecott Tunnel Fourth Bore Forecasting Project Documentation-Final Report, Cambridge Systematics, Inc. for Caltrans District 4 Office of Advance Planning, April 2006

Caldecott Tunnel Fourth Bore Forecasting Project Documentation Addendum, Caltrans District 4 Office of Advance Planning, October 2005

Caldecott Tunnel Fourth Bore: Updated Travel Demand Forecasting Analysis and Documentation, Cambridge Systematics, Inc. for Caltrans District 4 Office of Advance Planning, April 2006

Environmental Constraints Memorandum, Jones & Stokes for Caltrans District 4, February 2003

Final Community Impact Assessment for the Caldecott Improvement Project, Parsons for Caltrans District 4, May 2005

Final Community Impact Assessment for the Caldecott Improvement Project(Addendum), Parsons for Caltrans District 4, October 2005

Final Operational Analysis Report, Caltrans District 4 Office of Highway Operations, March 2006

Final Operational Analysis Report (Addendum), Caltrans District 4 Office of Highway Operations, October 2005

Final Scoping Summary Report, Public Affairs Management for Caltrans District 4, February 2003

Finding of No Adverse Effect, Jones and Stokes for Caltrans District 4 Office of Cultural Resources, January 2005

Finding of No Adverse Effect (Addendum), Caltrans District 4 Office of Cultural Resources, October 2005

Geologic Information for Caldecott Tunnel Fourth Bore EIR, Caltrans District 4 Office of Geotechnical Design, June 2004

Growth Inducement Analysis for the Caldecott Improvement Project, Parsons for Caltrans District 4, May 2005

Growth Inducement Analysis for the Caldecott Improvement Project (Addendum), Parsons for Caltrans District 4, October 2005

Historic Property Survey Report, Jones and Stokes for Caltrans District 4 Office of Cultural Resources, January 2005

Initial Site Assessment for hazardous waste, Caltrans District 4 Office of Environmental Engineering, April 2004

Initial Study: Caltrans Improvement Project, Jones & Stokes for Caltrans District 4, November 2002

Location Hydraulics Study/Floodplain Assessment, Caltrans District 4 Office of Engineering Services II, September 2004

Location Hydraulics Study/Floodplain Assessment (Addendum), Caltrans District 4 Office of Engineering Services II, November 2005

Natural Environment Study, Parsons for Caltrans District 4, October 2005

Natural Environment Study (Addendum), Parsons for Caltrans District 4, November 2005

Paleontological Resources Identification and Evaluation Report, Jones & Stokes for Caltrans District 4, July 2004

Paleontological Resources Identification and Evaluation Report (Addendum), Caltrans District 4, June 2005

Preliminary Geotechnical Report, Earth Mechanics, Inc. for Parsons Brinckerhoff and Caltrans District 4, February 2003

Project Study Report, Caltrans District 4, December 2000

Relocation Impact Memorandum, Caltrans District 4 Office of Right of Way Relocation Services, November 2004

Route 24/Caldecott Tunnel Corridor Study, Metropolitan Transportation Commission, January 2001

Revised Traffic Noise Impact Report, Caltrans District 4 Office of Environmental Engineering, August 2005

Revised Traffic Noise Impact Report (Addendum), Caltrans District 4 Office of Environmental Engineering, October 2005

Utilities for the Caldecott Tunnel Technical Memorandum, Parsons for Caltrans District 4, February 2005

Caldecott Tunnel 4th Bore, Ventilation Analysis Report Jet Fan Feasibility Study 2-Lane and 3-Lane Options, EarthTech for Caltrans District 4, April 2005

Caldecott Tunnel 4th Bore, Ventilation Analysis Report Jet Fan Feasibility Study 2-Lane and 3-Lane Options (Addendum), EarthTech for Caltrans District 4, October 2005

Visual Impact Assessment, Circle Point for Caltrans District 4, June 2005

Visual Impact Assessment (Addendum 1 and 2), Caltrans District 4 Office of Landscape Architecture, September 2005 and October 2005

Revised Water Quality Report, Caltrans District 4 Office of Water Quality, January 2006

Delineation of Waters of the United States, Including Wetlands, Caldecott Improvement Project, Alameda and Contra Costa Counties, CA, Jones & Stokes for Caltrans District 4 Office of Natural Sciences, August 2004

APPENDIX G:GEOTECHNICAL ANALYSIS

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MR. GREG McCONNEL
Senior Environmental Planner
Division of Environmental Analysis

Date: July 14, 2004

File: 04-ALA 24/ CC-24
Caldecott Tunnel
4th Bore Screening
294900

From: MAHMOOD MOMENZADEH
Transportation Engineer
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

HOOSHMAND NIKOUI, Chief, Branch A
GRANT WILCOX, Chief, Branch B
TIM POKRYWKA, Office Chief
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

Subject: Geotechnical Consideration for Screening Matrix

This memorandum presents our input for Geotechnical considerations in the screening matrix.

1. INTRODUCTION

This project proposes to construct a 4th bore adjacent to the existing tunnels at the above referenced site. The Project Study Report (PSR) was prepared by URS in 2000, which included a cost estimate for several tunnel alternatives and addressed general environmental and traffic issues related to the tunnel construction. Following the PSR, a Preliminary Geotechnical Report was prepared by Parson Brinkerhoff (PB) who was selected in 2002 to design the tunnel. The project includes the following main stages:

1. Scoping and Screening stage to select the most desired alternatives for environmental studies,
2. The environmental studies during which a most suitable tunnel alternative will be selected,
3. PS&E for the selected alternative, and
4. Construction.

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The project was recently activated again. Grant Wilcox and Mahmood Momenzadeh have provided the pros and cons of the proposed tunnel alternatives to design and the Project Manager through several informal e-mails and previous meeting discussions. This memo incorporates previous correspondences plus additional information.

2. GEOTECHNICAL FACTS OF TUNNEL ALTERNATIVE RANKING

Currently, 2-lane and 3-lane tunnel alternatives both on the north and south sides of the existing tunnels are considered. The extent of the retaining walls and widening or replacement of the bridges needed for the new tunnel vary depending on the tunnel alternative. The impact of these structures and other roadway items on the total cost of the project, though not as significant as the tunnel itself, should be also considered for screening purposes. Recently, we have developed a cost estimate for several proposed tunnel alternatives, which was presented in a memo dated March 23, 2004.

A summary of the ranks assigned to tunnel alternatives based on the geotechnical consideration is provided in Table 1 at the end of this text. Below is a brief description for each of the geotechnical considerations included in the ranking:

- The **tunnel and portal cost** is more profoundly affected by the number of lanes than the location of alignment, the north or south of the existing tunnel.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- Our estimates indicated that the cost rapidly increases when tunnel construction method changed from NATM to Stack Drift method. It is very likely that a combination of these two methods or similar methods may be needed to construct the 3-lane tunnel due to its excessive width and presence of poor ground condition at the tunnel and portal site. This increases both the cost and the construction time and efforts. It is very prudent to quantify the **risk associated with construction method of the 2 lane and 3-lane** tunnel at this site at a later preliminary design stage when the results of the proposed geotechnical investigation are available. Therefore, it is in our opinion to have both the two and three lane alternatives be studied at the preliminary design stage.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

Other factors and the ranking of the alternatives for each of these factors which we have distinguished are summarized below:

- Based on the existing Caldecott and BART tunnels construction records, **the problematic intrusive rocks** (sandstone dikes and diabase dikes) which have caused instability problem during the construction of the existing bores becomes less extensive to the north.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- More **construction stage area is available** on both the east and west sides of the north alignment than the south alignment.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- Based on the retaining wall plans and profiles provided by design, the required **retaining structures** and the wall height are more significant for the south alignment.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- **Bridge structures widening or replacement needs** are more for 3-lane than 2 lane tunnel alternatives.

  RANK: 1 for 2L-N, 2 for 2L-S, 3 for 3L-N and 4 for 3L-S

- The PGR indicated significant **erosion potential** within the watershed area on the east side of the southern alignment which may need additional mitigation and may impact the construction during the wet season.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- The north alignment is adjacent to the third bore whereas the south alignment is located near the first bore. Both the ground conditions and the construction techniques used for the first bore are inferior to those of third bore. So, obviously, the north alignment **construction impact on the existing tunnel** will be less than that of the southern alignment.

  RANK: 1 for 2L-N, 2 for 3L-N, 3 for 2L-S and 4 for 3L-S

- The northern alignment is **located at a deeper section of the hill** than the southern one. This may mean less excavation and support problems.

  RANK: 1 for 2L-N, (2 or 3) for 3L-N, (2 or 3) for 2L-S and 4 for 3L-S

The risk associated with the factors below is unknown. However, for the purpose of this study the following ranking were assigned based on the effects of the tunnel geometry on these factors.

- How does the **groundwater** on the north compare with the south alignment?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- Which alignment has more **impact on the residential area** over and near the portals (**these are: stability, noise, dust, perception) ?**

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- How is the **instability of the slopes and rock creep at portal,** particularly the eastern portal, differ between the northern and southern alignments?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

- How does the extent of the **hydrocarbon and organics and as any resulting gassy conditions** vary between the south and north alignments?

  RANK: 1 for 2L-N and 2L-S and 2 for 3L-N and 3L-S

3.0 CONCLUSIONS

Based on the discussions in the above and the data in Table 1, the 2-lane northern tunnel alternative is the best alternative. The risk increases as the ranking gets higher. The 3-lane north and 2-lane south are mostly identical based on the above evaluation. However, it appears that selection between 3-lane north and 2-lane south based on their ranking requires incorporating suitable weighting factors and considering other traffic and environmental criteria. On the other hand, 3-lane north may be preferred to 2-lane south because the geotechnical and environmental data obtained on the north can be used more

efficiently and the need for additional investigation on the south alignment will be eliminated.

* * * * *

If you have any questions, please call Mahmood Momenzadeh at Calnet 510-286-5732, Grant Wilcox at 510-286-4835 or Hooshamand Nikoui at 510-286-4811.

Attachments

c: TPokrwyka , HNikoui, Grant Wilcox, Daily File

MMomenzadeh/mm

MR. GREG McCONNELL
July 14, 2004
Page 6

Table 1- Summary of Tunnel Alternatives Ranks [1] for Geotechnical Considerations

Factors Impact Geotechnical Screening	Tunnel Alternatives			
	2-Lane North	3-Lane North	2-Lane South	3-Lane South
Tunnel and portals cost ($) [2]	1($165M)	3 ($240M)	2 ($195M)	4 ($280M)
Tunnel length (lineal meter)	2 (1052 m)	1 (1033m)	4 (1185 m)	3 (1124 m)
Tunnel Excavation (cub.m) [2]	1 (250K)	3 (290K)	2 (280K)	3 (315k)
Risk associated with construction method changes	1	3	2	4
Problematic intrusive rocks	1	2	3	4
Construction stage area availability	1	2	3	4
Retaining structures needs	1	3	2	4
Bridge structures widening/ Replacement Needs	1	3	2	4
Erosion potential	1	2	3	4
Construction impact on the existing tunnel	1	2	3	4
Effects of the hill Depth	1	2	3	4
Groundwater effects [3]	1	2	1	2
Impact on vicinity area stability, construction noise, dust, human perception impact [3]	1	2	1	2
Instability of the slopes and rock creep at portal[3]	1	2	1	2
Hydrocarbons and organics and resulting gassy condition[3]	1	2	1	2
Average Rank (No weight factor used)	1.1	2.3	2.2	3.3

Notes:

(1) Rank 1 is most preferred, Rank 4 is the least preferred
(2) Estimated costs and excavation volume are for NATM excavation and support (SEM) method. If 3-lane alternative requires Stack Drift or other costlier tunneling methods for the unstable rock zones, cost and excavation volumes increases substantially.
(3) Accurate ranking requires more information, given ranks only considers the tunnel geometry effects

MR. GREG McCONNELL
July 14, 2004
Page 5

efficiently and the need for additional investigation on the south alignment will be eliminated.

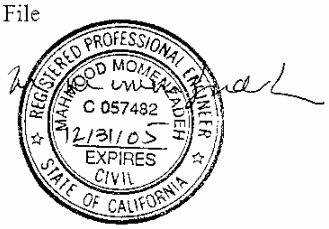
* * * * *

If you have any questions, please call Mahmood Momenzadeh at Calnet 510-286-5732, Grant Wilcox at 510-286-4835 or Hooshamand Nikoui at 510-286-4811.

Attachments

c: CFerraz, VBonner, TPokrwyka , HNikoui, Grant Wilcox, Daily File

MMomenzadeh/mm



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APPENDIX H:STATE HISTORIC PRESERVATION OFFICE CONCURRENCE

March 16, 2005

Reply To: FHWA980305A

Gene K. Fong, Division Administrator
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Re: Finding of Effect for the Proposed Caldecott Tunnel Improvement Project, Alameda and Contra Costa Counties, CA [HAD-CA, FILE #04-ALA-24, PM 5.3/6.2, 04-CC-24, PM 0.0/1.3, DOCUMENT # P51773]

Dear Mr. Fong:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA).*

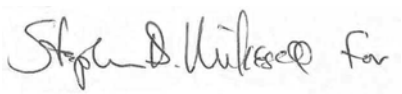
The Federal Highway Administration (FHWA) is requesting my concurrence pursuant to 36 CFR 800.5(c) and Stipulation X.B.1 of the PA, that the proposed undertaking will have no adverse effect on the Caldecott Tunnels, a property previously determined eligible for the National Register of Historic Places in 1998.

The FHWA's finding is based on the conclusion that the undertaking will not result in the physical destruction, alteration or removal of the historic Caldecott Tunnel. In addition the setting around the tunnel has been steadily encroached upon by development since the tunnel was complete in 1937. In the 1998 determination of eligibility the tunnel structure was considered to be the important resource. The boundary established for the Caldecott Tunnel as a historic property was tightly drawn to include only the original portal buildings, approaches, and two tunnels. The environment surrounding the structure was not considered to contribute to the historic significance of the property. Although the undertaking would represent a substantive change to the area near both ends of the tunnel, the project will not change the character of physical features within the property's setting that contribute to its historic significance.

Based on review of the submitted documentation, I concur in the FHWA's finding that this undertaking will have no adverse effect on historic properties. The same finding also satisfies Caltrans' responsibilities under 5024.5(a).

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 654-0631 or e-mail at nlind@ohp.parks.ca.gov.

Sincerely,



Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

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APPENDIX I: PRELIMINARY REASONABLENESS DETERMINATION FOR NOISE ABATEMENTS

The preliminary reasonableness involves the consideration of the cost of abatement, absolute noise levels, the date of development of the impacted residences, and the life cycle of the abatement. These factors are addressed by calculating the reasonable allowance per benefited residence as outlined in the Caltrans publication entitled "Traffic Noise Analysis Protocol' (TNAP), dated October 1998.

A Critical Design Receiver is selected from amongst the modeled receptors to calculate the reasonable allowance. A critical design receiver is defined as a receiver yielding the maximum allowable cost per receptor for a sound wall or system of sound walls. For each noise abatement facility the base allowance of $17,000 (Base Year 2002) per benefited residence is adjusted upwards by the following reasonableness factors:

(1) Absolute noise levels: These are predicted future noise levels at the critical design receiver with project but without noise abatement:

69 dBA or less add $2,000

70-74 dBA add $4,000

75-78 dBA add $6,000

More than 78 dBA add $8,000

(2) The increase of future predicted noise levels with project over existing noise levels:

Less than 3 dBA add $0

3-7 dBA add $2,000

8-11 dBA add $4,000

12 dBA or moreadd $6,000

(3) Achievable noise reduction provided by the proposed noise abatement:

Less than 6 dBA add $0

6-8 dBA add $2,000

9-11 dBA add $4,000

12 dBA or moreadd $6,000

(4) If the majority of benefited residences (more than 50%) were in existence before January 1, 1978 or highway construction on new alignment:

If answer is YES add $10,000

If answer is NO add $0

(5) Total noise abatement costs cannot exceed 50% of the estimated project construction cost, abatement not included.

The amount resulting from adjustments (1) through (4) is called the unmodified reasonable allowance. If the total unmodified reasonable allowance for all noise abatements evaluated is below 50% of the estimated project construction cost (without the abatements), no modifications will be necessary. Otherwise, the amount over the 50% project construction cost needs to be deducting from total reasonable allowance using formulas contained in TNAP and produce the modified reasonable allowance.

The preliminary reasonable assessment is made by comparing the modified reasonable allowance to the estimated construction cost of the sound wall under consideration. The estimated construction cost includes traffic control requirements, utility relocations, drainage revisions and special foundation designs, where needed. If the estimated construction cost is found less than or equal to the allowance, then the sound wall is considered to be reasonable on a preliminary basis.

APPENDIX J: REASONABLE ALLOWANCE CERTIFICATION FOR NOISE ABATEMENTS

Barrier No. 1

Tunnel Alternatives 2N & 3N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Sound Wall					
Barrier No. 1	**R21**	**67**	**68**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with barrier [dBA, Leq(h)]					63	62	**61**	61	N/A
Attenuation (dBA)				< 5	5	6	**7**	7	
Number of protected receptors (> or = 5 dBA)					1	1	**1**	1	
Truck stack line-of-sight break (Y/N)					N	Y	**Y**	Y	
Pre 1/78 or new hwy (Y/N)					N	N	**N**	N	
Length of sound wall (meters)					249	249	**249**	249	
(Unmodified) Reasonable allowance per receptor				N/A	$28,000	$30,000	**$30,000**	$30,000	N/A
(Unmodified) Reasonable allowance for this wall				N/A	$28,000	$30,000	**$30,000**	$30,000	N/A

Barrier No. 2 - Option A

Tunnel Alternative 2N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Sound Wall					
Barrier No. 2 - Option A	**R12**	**73**	**73**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with barrier [dBA, Leq(h)]				70	68	66	65	64	**63**
Attenuation (dBA)				< 5	5	7	8	9	**10**
Number of protected receptors (> or = 5 dBA)					7	19	19	19	**25**
Truck stack line-of-sight break (Y/N)					N	N	N	Y	**Y**
Pre 1/78 or new hwy (Y/N)					N	N	N	N	**N**
Length of sound wall (meters)					277	277	277	277	**277**
(Unmodified) Reasonable allowance per receptor				N/A	$30,000	$32,000	$32,000	$34,000	**$34,000**
(Unmodified) Reasonable allowance for this wall				N/A	$210,000	$608,000	$608,000	$646,000	**$850,000**

Tunnel Alternative 3N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Sound Wall					
Barrier No. 2 - Option A	**R12**	**73**	**75**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with barrier [dBA, Leq(h)]				71	69	67	66	65	**64**
Attenuation (dBA)				< 5	6	8	9	10	**11**
Number of protected receptors (> or = 5 dBA)					7	7	13	19	**25**
Truck stack line-of-sight break (Y/N)					N	N	N	Y	**Y**
Pre 1/78 or new hwy (Y/N)					N	N	N	N	**N**
Length of sound wall (meters)					277	277	277	277	**277**
(Unmodified) Reasonable allowance per receptor				N/A	$34,000	$34,000	$36,000	$36,000	**$36,000**
(Unmodified) Reasonable allowance for this wall				N/A	$238,000	$238,000	$468,000	$684,000	**$900,000**

Barrier No. 2 - Option B

Tunnel Alternative 2N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Sound Wall/Earth Berm Combination					
Barrier No. 2 - Option B	**R12**	**73**	**73**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with barrier [dBA, Leq(h)]				63	**63**	63	63	63	63
Attenuation (dBA)				10	**11**	11	11	11	11
Number of protected receptors (> or = 5 dBA)				19	**25**	25	25	31	31
Truck stack line-of-sight break (Y/N)				Y	**Y**	Y	Y	Y	Y
Pre 1/78 or new hwy (Y/N)				N	**N**	N	N	N	N
Length of sound wall (meters)				161	**161**	161	161	161	161
(Unmodified) Reasonable allowance per receptor				$34,000	**$34,000**	$34,000	$34,000	$34,000	$34,000
(Unmodified) Reasonable allowance for this wall				$646,000	**$850,000**	$850,000	$850,000	$1,054,000	$1,054,000

Tunnel Alternative 3N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Sound Wall/Earth Berm Combination					
Barrier No. 2 - Option B	**R12**	**73**	**75**	**1.8 m (6 ft)**	**2.4 m (8 ft)**	**3.0 m (10 ft)**	**3.7 m (12 ft)**	**4.3 m (14 ft)**	**4.9 m (16.0 ft)**
Future noise level with barrier [dBA, Leq(h)]				64	**63**	63	63	63	63
Attenuation (dBA)				12	**12**	12	13	13	13
Number of protected receptors (> or = 5 dBA)				19	**25**	25	25	31	31
Truck stack line-of-sight break (Y/N)				Y	**Y**	Y	Y	Y	Y
Pre 1/78 or new hwy (Y/N)				N	**N**	N	N	N	N
Length of sound wall (meters)				161	**161**	161	161	161	161
(Unmodified) Reasonable allowance per receptor				$36,000	**$38,000**	$38,000	$38,000	$38,000	$38,000
(Unmodified) Reasonable allowance for this wall				$684,000	**$950,000**	$950,000	$950,000	$1,178,000	$1,178,000

Barrier No. 3

Tunnel Alternative 2N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Earth Berm
Barrier No. 3	**R24**	**74**	**75**	
Future noise level with barrier [dBA, Leq(h)]				**69**
Attenuation (dBA)				**6**
Number of protected receptors (> or = 5 dBA)				**7**
Truck stack line-of-sight break (Y/N)				**N**
Pre 1/78 or new hwy (Y/N)				**N**
Length of sound wall (meters)				**0**
(Unmodified) Reasonable allowance per receptor				**$34,000**
(Unmodified) Reasonable allowance for this barrier				**$238,000**

Tunnel Alternative 3N

Barrier	Critical Design Receiver	Exist Noise (dBA)	Future Noise w/o Abatement (dBA)	Noise Abatement - Earth Berm
Barrier No.3	**R24**	**74**	**76**	
Future noise level with barrier [dBA, Leq(h)]				**69**
Attenuation (dBA)				**7**
Number of protected receptors (> or = 5 dBA)				**9**
Truck stack line-of-sight break (Y/N)				**N**
Pre 1/78 or new hwy (Y/N)				**N**
Length of sound wall (meters)				**0**
(Unmodified) Reasonable allowance per receptor				**$34,000**
(Unmodified) Reasonable allowance for this barrier				**$306,000**

Alternative 2N

Modified Reasonable Allowance with Barrier No. 2 - Option A

Barrier	No. of Residences	Unmodified Reasonable Allowance per Residence	Unmodified Reasonable Allowance per Barrier	Fraction of Total Reasonable Allowance	Reduction of Reasonable Allowance per Barrier	Reduction of Reasonable Allowance per Residence	Modified Reasonable Allowance per Residence	Modified Reasonable Allowance per Barrier
a	**b**	**c**	**d** (d =b x c)	**e** (e =d/m)	**f** (f =e x n)	**g** (g =f/b)	**h** (h =c - g)	**j** (j =d - f)
No. 1	1	$30,000	$30,000	0.027	$0	$0	$30,000	**$30,000**
No. 2 - Option A	25	$34,000	$850,000	0.760	$0	$0	$34,000	**$850,000**
No. 3	7	$34,000	$238,000	0.213	$0	$0	$34,000	**$238,000**
Total	33		$ 1,118,000	1.000	$ 0			$ 1,118,000

$ 160,000,000	Estimated Project Construction Cost	**k**
$ 80,000,000	Project Noise Abatement Cost Limit	**l** (l =k x 0.5)
$ 1,118,000	Total Unmodified Reasonable Allowance	**m** (m =Total d)
$0	Excessive Total Reasonable Allowance	**n** (greater of m - l or zero)

Alternative 2N

Modified Reasonable Allowance with Barrier No. 2 - Option B

Barrier	No. of Residences	Unmodified Reasonable Allowance per Residence	Unmodified Reasonable Allowance per Barrier	Fraction of Total Reasonable Allowance	Reduction of Reasonable Allowance per Barrier	Reduction of Reasonable Allowance per Residence	Modified Reasonable Allowance per Residence	Modified Reasonable Allowance per Barrier
a	**b**	**c**	**d** (d =b x c)	**e** (e =d/m)	**f** (f =e x n)	**g** (g =f/b)	**h** (h =c - g)	**j** (j =d - f)
No. 1	1	$30,000	$30,000	0.027	$0	$0	$30,000	**$30,000**
No. 2 - Option B	25	$34,000	$850,000	0.760	$0	$0	$34,000	**$850,000**
No. 3	7	$34,000	$238,000	0.213	$0	$0	$34,000	**$238,000**
Total	33		$ 1,118,000	1.000	$ 0			$ 1,118,000

$ 160,000,000	Estimated Project Construction Cost	**k**
$ 80,000,000	Project noise abatement Cost Limit	**l** (l =k x 0.5)
$ 1,118,000	Total Unmodified Reasonable Allowance	**m** (m =Total d)
$0	Excessive Total Reasonable Allowance	**n** (greater of m - l or zero)

Alternative 3N

Modified Reasonable Allowance with Barrier No. 2 - Option A

Barrier	No. of Residences	Unmodified Reasonable Allowance per Residence	Unmodified Reasonable Allowance per Barrier	Fraction of Total Reasonable Allowance	Reduction of Reasonable Allowance per Barrier	Reduction of Reasonable Allowance per Residence	Modified Reasonable Allowance per Residence	Modified Reasonable Allowance per Barrier
a	**b**	**c**	**d** (d =b x c)	**e** (e =d/m)	**f** (f =e x n)	**g** (g =f/b)	**h** (h =c - g)	**j** (j =d - f)
No. 1	1	$30,000	$30,000	0.024	$0	$0	$30,000	**$30,000**
No. 2 - Option A	25	$36,000	$900,000	0.728	$0	$0	$36,000	**$900,000**
No. 3	9	$34,000	$306,000	0.248	$0	$0	$34,000	**$306,000**
Total	35		$ 1,236,000	1.000	$ 0			$ 1,236,000

$ 240,000,000	Estimated Project Construction Cost	**k**
$ 120,000,000	Project noise abatement Cost Limit	**l** (l =k x 0.5)
$ 1,236,000	Total Unmodified Reasonable Allowance	**m** (m =Total d)
$0	Excessive Total Reasonable Allowance	**n** (greater of m - l or zero)

Alternative 3N

Modified Reasonable Allowance with Barrier No. 2 - Option B

Barrier	No. of Residences	Unmodified Reasonable Allowance per Residence	Unmodified Reasonable Allowance per Barrier	Fraction of Total Reasonable Allowance	Reduction of Reasonable Allowance per Barrier	Reduction of Reasonable Allowance per Residence	Modified Reasonable Allowance per Residence	Modified Reasonable Allowance per Barrier
a	**b**	**c**	**d** (d =b x c)	**e** (e =d/m)	**f** (f =e x n)	**g** (g =f/b)	**h** (h =c - g)	**j** (j =d - f)
No. 1	1	$30,000	$30,000	0.023	$0	$0	$30,000	**$30,000**
No. 2 - Option B	25	$38,000	$950,000	0.739	$0	$0	$38,000	**$950,000**
No. 3	9	$34,000	$306,000	0.238	$0	$0	$34,000	**$306,000**
Total	35		$ 1,286,000	1.000	$ 0			$ 1,286,000

$ 240,000,000	Estimated Project Construction Cost	**k**
$ 120,000,000	Project Noise Abatement Cost Limit	**l** (l =k x 0.5)
$ 1,286,000	Total Unmodified Reasonable Allowance	**m** (m =Total d)
$0	Excessive Total Reasonable Allowance	**n** (greater of m - l or zero)

APPENDIX K:SPECIES LIST

United States Department of the Interior

Department of the Interior logo

FISH AND WILDLIFE SERVICE

Fish & Wildlife Service logo

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

September 1, 2005

Document Number: 050901025300

Patrick Stone
Jones & Stokes
2600 V Street
Sacramento, CA 95691

Subject: Species List for Caldecotte Tunnel and Highway 24 Road Improvements

Dear: Mr. Stone

We are sending this official species list in response to your September 1, 2005 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested. You have stated that this list is for consultation with the Fish & Wildlife Service.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area.* For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be November 30, 2005.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at sacramento.fws.gov/es/branches.htm.

Endangered Species Division

Take Pride in America

<- Revise Selection

Make Official Letter ->

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 050901025300

Database Last Updated: August 22, 2005

NOTE: The Fish & Wildlife Service has published its revised designation of critical habitat for 15 vernal pool species in California and Oregon. The rule becomes effective September 12.

The National Oceanic & Atmospheric Administration Marine Fisheries Service has released its final critical habitat designation for 19 evolutionarily significant units of salmon and steelhead in California and the Northwest.

We are in the process of revising our species lists to reflect these changes. Visit the Sacramento Fish & Wildlife Office home page at www.fws.gov/pacific/sacramento for more information about vernal pool critical habitat. Visit the Marine Fisheries web page at http://swr.nmfs.noaa.gov/salmon.htm for information about salmon and steelhead critical habitat.

Quad Lists

BRIONES VALLEY (465B)

Listed Species

Invertebrates

Branchinecta lynchi - vernal pool fairy shrimp (T)

Fish

Hypomesus transpacificus - Critical habitat, delta smelt (X)

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus mykiss - Central California Coastal steelhead (T)

Oncorhynchus mykiss - Central Valley steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Masticophis lateralis euryxanthus - Alameda whipsnake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Rallus longirostris obsoletus - California clapper rail (E)

Sterna antillarum (=albifrons) browni - California least tern (E)

Plants

Arctostaphylos pallida - pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Holocarpha macradenia - Santa Cruz tarplant (T)

Proposed Species

Fish

Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Helminthoglypta nickliniana bridgesi - Bridges' Coast Range shoulderband snail (SC)

Hydrochara rickseckeri - Ricksecker's water scavenger beetle (SC)

Linderiella occidentalis - California linderiella fairy shrimp (SC)

Nothochrysa californica - San Francisco lacewing (SC)

Fish

Pogonichthys macrolepidotus - Sacramento splittail (SC)

Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)

Clemmys marmorata marmorata - northwestern pond turtle (SC)

Clemmys marmorata pallida - southwestern pond turtle (SC)

Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)

Amphispiza belli belli - Bell's sage sparrow (SC)

Athene cunicularia hypugaea - western burrowing owl (SC)

Branta canadensis leucopareia - Aleutian Canada goose (D)

Buteo regalis - ferruginous hawk (SC)

Calidris canutus - red knot (SC)

Calypte costae - Costa's hummingbird (SC)

Carduelis lawrencei - Lawrence's goldfinch (SC)

Chaetura vauxi - Vaux's swift (SC)

Cypseloides niger - black swift (SC)

Elanus leucurus - white-tailed (=black shouldered) kite (SC)

Empidonax traillii brewsteri - little willow flycatcher (CA)

Falco peregrinus anatum - American peregrine falcon (D)

Geothlypis trichas sinuosa - saltmarsh common yellowthroat (SC)

Lanius ludovicianus - loggerhead shrike (SC)

Laterallus jamaicensis coturniculus - black rail (CA)

Limosa fedoa - marbled godwit (SC)

Melanerpes lewis - Lewis' woodpecker (SC)

Melospiza melodia maxillaris - Suisun song sparrow (SC)

Numenius americanus - long-billed curlew (SC)

Riparia riparia - bank swallow (CA)

Rynchops niger - black skimmer (SC)

Selasphorus rufus - rufous hummingbird (SC)

Selasphorus sasin - Allen's hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Eumops perotis californicus - greater western mastiff-bat (SC)

Myotis ciliolabrum - small-footed myotis bat (SC)

Myotis evotis - long-eared myotis bat (SC)

Myotis thysanodes - fringed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)

Myotis yumanensis - Yuma myotis bat (SC)

Neotoma fuscipes annectens - San Francisco dusky-footed woodrat (SC)

Perognathus inornatus - San Joaquin pocket mouse (SC)

Plants

Amsinckia lunaris - bent-flowered fiddleneck (SLC)

Calochortus pulchellus - Mt. Diablo fairy-lantern (SLC)

Cirsium andrewsii - Franciscan thistle (SC)

Dirca occidentalis - western leatherwood (SLC)

Helianthella castanea - Diablo helianthella (=rock-rose) (SC)

Meconella oregana - Oregon meconella (=white fairypoppy) (SC)

Monardella villosa ssp globosa - robust monardella (=robust coyote mint) (SLC)

Streptanthus albidus ssp. peramoenus - most beautiful (uncommon) jewelflower (SC)

OAKLAND EAST (465C)

Listed Species

Invertebrates

Branchinecta lynchi - vernal pool fairy shrimp (T)

Speyeria callippe callippe - callippe silverspot butterfly (E)

Fish

Eucyclogobius newberryi - tidewater goby (E)

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus mykiss - Central California Coastal steelhead (T)

Oncorhynchus mykiss - Central Valley steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Masticophis lateralis euryxanthus - Alameda whipsnake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Pelecanus occidentalis californicus - California brown pelican (E)

Rallus longirostris obsoletus - California clapper rail (E)

Sterna antillarum (=albifrons) browni - California least tern (E)

Mammals

Reithrodontomys raviventris - salt marsh harvest mouse (E)

Plants

Arctostaphylos pallida - pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Clarkia franciscana - Presidio clarkia (E)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Hydrochara rickseckeri - Ricksecker's water scavenger beetle (SC)

Linderiella occidentalis - California linderiella fairy shrimp (SC)

Nothochrysa californica - San Francisco lacewing (SC)

Fish

Pogonichthys macrolepidotus - Sacramento splittail (SC)

Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)

Clemmys marmorata pallida - southwestern pond turtle (SC)

Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)

Amphispiza belli belli - Bell's sage sparrow (SC)

Athene cunicularia hypugaea - western burrowing owl (SC)

Buteo regalis - ferruginous hawk (SC)

Calidris canutus - red knot (SC)

Calypte costae - Costa's hummingbird (SC)

Carduelis lawrencei - Lawrence's goldfinch (SC)

Chaetura vauxi - Vaux's swift (SC)

Cypseloides niger - black swift (SC)

Elanus leucurus - white-tailed (=black shouldered) kite (SC)

Empidonax traillii brewsteri - little willow flycatcher (CA)

Falco peregrinus anatum - American peregrine falcon (D)

Geothlypis trichas sinuosa - saltmarsh common yellowthroat (SC)

Lanius ludovicianus - loggerhead shrike (SC)

Laterallus jamaicensis coturniculus - black rail (CA)

Limosa fedoa - marbled godwit (SC)

Melanerpes lewis - Lewis' woodpecker (SC)

Melospiza melodia pusillula - Alameda (South Bay) song sparrow (SC)

Numenius americanus - long-billed curlew (SC)

Riparia riparia - bank swallow (CA)

Rynchops niger - black skimmer (SC)

Selasphorus rufus - rufous hummingbird (SC)

Selasphorus sasin - Allen's hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Eumops perotis californicus - greater western mastiff-bat (SC)

Myotis evotis - long-eared myotis bat (SC)

Myotis thysanodes - fringed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)

Branchinecta longiantenna - longhorn fairy shrimp (E)

Branchinecta lynchi - Critical habitat, vernal pool fairy shrimp (X)

Branchinecta lynchi - vernal pool fairy shrimp (T)

Euphydryas editha bayensis - bay checkerspot butterfly (T)

Lepidurus packardi - Critical habitat, vernal pool tadpole shrimp (X)

Lepidurus packardi - vernal pool tadpole shrimp (E)

Speyeria callippe callippe - callippe silverspot butterfly (E)

Fish

Eucyclogobius newberryi - tidewater goby (E)

Hypomesus transpacificus - Critical habitat, delta smelt (X)

Oncorhynchus kisutch - coho salmon - central CA coast (E)

Oncorhynchus mykiss - Central California Coastal steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - Critical habitat, winter-run chinook salmon (X)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Masticophis lateralis euryxanthus - Alameda whipsnake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Pelecanus occidentalis californicus - California brown pelican (E)

Rallus longirostris obsoletus - California clapper rail (E)

Sterna antillarum (=albifrons) browni - California least tern (E)

Mammals

Reithrodontomys raviventris - salt marsh harvest mouse (E)

Vulpes macrotis mutica - San Joaquin kit fox (E)

Plants

Amsinckia grandiflora - large-flowered fiddleneck (E)

Arctostaphylos pallida - pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Clarkia franciscana - Presidio clarkia (E)

Cordylanthus palmatus - palmate-bracted bird's-beak (E)

Lasthenia conjugens - Contra Costa goldfields (E)

Lasthenia conjugens - Critical habitat, Contra Costa goldfields (X)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Oncorhynchus mykiss - Critical habitat, Central California coastal steelhead (PX)

Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (PX)

Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (PX)

Amphibians

Ambystoma californiense - Critical habitat, CA tiger salamander (PX)

Rana aurora draytonii - Critical habitat, California red-legged frog (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Adela oplerella - Opler's longhorn moth (SC)

Helminthoglypta nickliniana bridgesi - Bridges' Coast Range shoulderband snail (SC)

Hydrochara rickseckeri - Ricksecker's water scavenger beetle (SC)

Hygrotus curvipes - curved-foot hygrotus diving beetle (SC)

Linderiella occidentalis - California linderiella fairy shrimp (SC)

Microcina lumi - Fairmont (=Lum's) microblind harvestman (SC)

Nothochrysa californica - San Francisco lacewing (SC)

Fish

Lampetra ayresi - river lamprey (SC)

Lampetra tridentata - Pacific lamprey (SC)

Pogonichthys macrolepidotus - Sacramento splittail (SC)

Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)

Clemmys marmorata marmorata - northwestern pond turtle (SC)

Clemmys marmorata pallida - southwestern pond turtle (SC)

Masticophis flagellum ruddocki - San Joaquin coachwhip (=whipsnake) (SC)

Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)

Amphispiza belli belli - Bell's sage sparrow (SC)

Athene cunicularia hypugaea - western burrowing owl (SC)

Baeolophus inornatus - oak titmouse (SLC)

Botaurus lentiginosus - American bittern (SC)

Branta canadensis leucopareia - Aleutian Canada goose (D)

Buteo regalis - ferruginous hawk (SC)

Calidris canutus - red knot (SC)

Calypte costae - Costa's hummingbird (SC)

Carduelis lawrencei - Lawrence's goldfinch (SC)

Chaetura vauxi - Vaux's swift (SC)

Charadrius montanus - mountain plover (SC)

Contopus cooperi - olive-sided flycatcher (SC)

Elanus leucurus - white-tailed (=black shouldered) kite (SC)

Empidonax traillii brewsteri - little willow flycatcher (CA)

Falco peregrinus anatum - American peregrine falcon (D)

Geothlypis trichas sinuosa - saltmarsh common yellowthroat (SC)

Lanius ludovicianus - loggerhead shrike (SC)

Laterallus jamaicensis coturniculus - black rail (CA)

Limosa fedoa - marbled godwit (SC)

Melanerpes lewis - Lewis' woodpecker (SC)

Melospiza melodia pusillula - Alameda (South Bay) song sparrow (SC)

Numenius americanus - long-billed curlew (SC)

Plegadis chihi - white-faced ibis (SC)

Riparia riparia - bank swallow (CA)

Rynchops niger - black skimmer (SC)

Selasphorus rufus - rufous hummingbird (SC)

Selasphorus sasin - Allen's hummingbird (SC)

Sphyrapicus ruber - red-breasted sapsucker (SC)

Toxostoma redivivum - California thrasher (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Eumops perotis californicus - greater western mastiff-bat (SC)

Myotis ciliolabrum - small-footed myotis bat (SC)

Myotis evotis - long-eared myotis bat (SC)

Myotis thysanodes - fringed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)

Myotis yumanensis - Yuma myotis bat (SC)

Neotoma fuscipes annectens - San Francisco dusky-footed woodrat (SC)

Perognathus inornatus - San Joaquin pocket mouse (SC)

Scapanus latimanus parvus - Alameda Island mole (SC)

Sorex vagrans halicoetes - salt marsh vagrant shrew (SC)

Plants

Allium sharsmithae - Sharsmith's onion (SC)

Amsinckia lunaris - bent-flowered fiddleneck (SLC)

Astragalus tener var. tener - alkali milk-vetch (SC)

Atriplex cordulata - heartscale (SC)

Atriplex depressa - brittlescale (SC)

Atriplex joaquiniana - San Joaquin spearscale (=saltbush) (SC)

Balsamorhiza macrolepis var macrolepis - big-scale (=California) balsamroot (SLC)

Blepharizonia plumosa ssp. plumosa - big tarplant (SC)

Campanula exigua - chaparral harebell (=bellflower) (SLC)

Castilleja ambigua ssp. ambigua - salt marsh owl's clover (=johnny-nip) (SLC)

Cirsium fontinale var. campylon - Mt. Hamilton thistle (SC)

Clarkia concinna ssp. automixa - South Bay clarkia (=Santa Clara red ribbons) (SC)

Cordylanthus mollis ssp. hispidus - hispid bird's-beak (SC)

Coreopsis hamiltonii - Mt. Hamilton coreopsis (SC)

Cryptantha hooveri - Hoover's cryptantha (SLC)

Deinandra bacigalupii - Livermore tarplant (SC)

Delphinium californicum ssp. interius - interior California (Hospital Canyon) larkspur (SC)

Delphinium recurvatum - recurved larkspur (SC)

Dirca occidentalis - western leatherwood (SLC)

Eriogonum caninum - Tiburon buckwheat (SLC)

Eriogonum nudum var. decurrens - Ben Lomond buckwheat (= naked buckwheat) (SC)

Eryngium aristulatum var. hooveri - Hoover's button-celery (SC)

Eschscholzia rhombipetala - diamond-petaled California poppy (SC)

Fritillaria agrestis - stinkbells (SLC)

Fritillaria falcata - talus fritillary (SC)

Fritillaria liliacea - fragrant fritillary (= prairie bells) (SC)

Galium andrewsii ssp. gatense - serpentine bedstraw (SLC)

Helianthella castanea - Diablo helianthella (=rock-rose) (SC)

Hemizonia parryi ssp. congdonii - Congdon's tarplant (SC)

Hesperolinon serpentinum - Napa western flax (SC)

Lathyrus jepsonii var. jepsonii - delta tule-pea (SC)

Lilaeopsis masonii - Mason's lilaeopsis (SC)

Linanthus grandiflorus - large-flowered (=flower) linanthus (SC)

Monardella villosa ssp globosa - robust monardella (=robust coyote mint) (SLC)

Myosurus minimus ssp. apus - little mousetail (SC)

Plagiobothrys diffusus - San Francisco popcornflower (CA)

Spartina foliosa - Pacific cordgrass (=California cordgrass) (SLC)

Streptanthus albidus ssp. peramoenus - most beautiful (uncommon) jewelflower (SC)

Trifolim depauperatum var. hydrophilum - water sack (=saline) clover (SC)

Contra Costa County

Listed Species

Invertebrates

Apodemia mormo langei - Lange's metalmark butterfly (E)

Branchinecta conservatio - Conservancy fairy shrimp (E)

Branchinecta longiantenna - Critical habitat, longhorn fairy shrimp (X)

Branchinecta longiantenna - longhorn fairy shrimp (E)

Branchinecta lynchi - Critical habitat, vernal pool fairy shrimp (X)

Branchinecta lynchi - vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)

Lepidurus packardi - vernal pool tadpole shrimp (E)

Speyeria callippe callippe - callippe silverspot butterfly (E)

Fish

Eucyclogobius newberryi - tidewater goby (E)

Hypomesus transpacificus - Critical habitat, delta smelt (X)

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus kisutch - coho salmon - central CA coast (E)

Oncorhynchus mykiss - Central California Coastal steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - Critical habitat, winter-run chinook salmon (X)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Masticophis lateralis euryxanthus - Alameda whipsnake (T)

Thamnophis gigas - giant garter snake (T)

Birds

Charadrius alexandrinus nivosus - western snowy plover (T)

Haliaeetus leucocephalus - bald eagle (T)

Pelecanus occidentalis californicus - California brown pelican (E)

Rallus longirostris obsoletus - California clapper rail (E)

Sterna antillarum (=albifrons) browni - California least tern (E)

Mammals

Reithrodontomys raviventris - salt marsh harvest mouse (E)

Vulpes macrotis mutica - San Joaquin kit fox (E)

Plants

Amsinckia grandiflora - large-flowered fiddleneck (E)

Arctostaphylos pallida - pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Cordylanthus mollis ssp. mollis - soft bird's-beak (E)

Erysimum capitatum ssp. angustatum - Contra Costa wallflower (E)

Erysimum capitatum ssp. angustatum - Critical Habitat, Contra Costa wallflower (X)

Holocarpha macradenia - Critical habitat, Santa Cruz tarplant (X)

Holocarpha macradenia - Santa Cruz tarplant (T)

Lasthenia conjugens - Contra Costa goldfields (E)

Lasthenia conjugens - Critical habitat, Contra Costa goldfields (X)

Oenothera deltoides ssp. howellii - Antioch Dunes evening-primrose (E)

Oenothera deltoides ssp. howellii - Critical habitat, Antioch Dunes evening-primrose (X)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Oncorhynchus mykiss - Critical habitat, Central California coastal steelhead (PX)

Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (PX)

Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (PX)

Amphibians

Ambystoma californiense - Critical habitat, CA tiger salamander (PX)

Rana aurora draytonii - Critical habitat, California red-legged frog (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Aegialia concinna - Ciervo aegialian scarab beetle (SC)

Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)

Anthicus sacramento - Sacramento anthicid beetle (SC)

Branchinecta mesovallensis - Midvalley fairy shrimp (SC)

Coelus gracilis - San Joaquin dune beetle (SC)

Cophura hurdi - Antioch cophuran robberfly (SC)

Efferia antiochi - Antioch efferian robberfly (SC)

Helminthoglypta nickliniana bridgesi - Bridges' Coast Range shoulderband snail (SC)

Hydrochara rickseckeri - Ricksecker's water scavenger beetle (SC)

Hygrotus curvipes - curved-foot hygrotus diving beetle (SC)

Idiostatus middlekaufi - Middlekauf's shieldback katydid (SC)

Incisalia mossii marinensis - Marin elfin butterfly (SC)

Linderiella occidentalis - California linderiella fairy shrimp (SC)

Lytta molesta - molestan blister beetle (SC)

Metapogon hurdi - Hurd's metapogon robberfly (SC)

Myrmosula pacifica - Antioch mutillid wasp (SC)

Nothochrysa californica - San Francisco lacewing (SC)

Perdita hirticeps luteocincta - yellow-banded andrenid bee (SC)

Perdita scitula antiochensis - Antioch andrenid bee (SC)

Philanthus nasilis - Antioch sphecid wasp (SC)

Fish

Lampetra ayresi - river lamprey (SC)

Lampetra tridentata - Pacific lamprey (SC)

Pogonichthys macrolepidotus - Sacramento splittail (SC)

Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)

Clemmys marmorata marmorata - northwestern pond turtle (SC)

Clemmys marmorata pallida - southwestern pond turtle (SC)

Masticophis flagellum ruddocki - San Joaquin coachwhip (=whipsnake) (SC)

Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)

Amphispiza belli belli - Bell's sage sparrow (SC)

Athene cunicularia hypugaea - western burrowing owl (SC)

Baeolophus inornatus - oak titmouse (SLC)

Botaurus lentiginosus - American bittern (SC)

Branta canadensis leucopareia - Aleutian Canada goose (D)

Buteo regalis - ferruginous hawk (SC)

Buteo Swainsoni - Swainson's hawk (CA)

Calidris canutus - red knot (SC)

Calypte costae - Costa's hummingbird (SC)

Carduelis lawrencei - Lawrence's goldfinch (SC)

Chaetura vauxi - Vaux's swift (SC)

Charadrius montanus - mountain plover (SC)

Contopus cooperi - olive-sided flycatcher (SC)

Elanus leucurus - white-tailed (=black shouldered) kite (SC)

Empidonax traillii brewsteri - little willow flycatcher (CA)

Falco peregrinus anatum - American peregrine falcon (D)

Geothlypis trichas sinuosa - saltmarsh common yellowthroat (SC)

Lanius ludovicianus - loggerhead shrike (SC)

Laterallus jamaicensis coturniculus - black rail (CA)

Limosa fedoa - marbled godwit (SC)

Melanerpes lewis - Lewis' woodpecker (SC)

Melospiza melodia maxillaris - Suisun song sparrow (SC)

Melospiza melodia pusillula - Alameda (South Bay) song sparrow (SC)

Melospiza melodia samuelis - San Pablo song sparrow (SC)

Numenius americanus - long-billed curlew (SC)

Numenius phaeopus - whimbrel (SC)

Plegadis chihi - white-faced ibis (SC)

Riparia riparia - bank swallow (CA)

Selasphorus rufus - rufous hummingbird (SC)

Selasphorus sasin - Allen's hummingbird (SC)

Sphyrapicus ruber - red-breasted sapsucker (SC)

Toxostoma redivivum - California thrasher (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Eumops perotis californicus - greater western mastiff-bat (SC)

Myotis ciliolabrum - small-footed myotis bat (SC)

Myotis evotis - long-eared myotis bat (SC)

Myotis thysanodes - fringed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)

Myotis yumanensis - Yuma myotis bat (SC)

Neotoma fuscipes annectens - San Francisco dusky-footed woodrat (SC)

Perognathus inornatus - San Joaquin pocket mouse (SC)

Sorex ornatus sinuosus - Suisun ornate shrew (SC)

Sorex vagrans halicoetes - salt marsh vagrant shrew (SC)

Plants

Amsinckia lunaris - bent-flowered fiddleneck (SLC)

Arabis blepharophylla - coast rock-cress (SLC)

Aster lentus - Suisun Marsh aster (SC)

Atriplex cordulata - heartscale (SC)

Atriplex depressa - brittlescale (SC)

Atriplex joaquiniana - San Joaquin spearscale (=saltbush) (SC)

Blepharizonia plumosa ssp. plumosa - big tarplant (SC)

Calochortus pulchellus - Mt. Diablo fairy-lantern (SLC)

Campanula exigua - chaparral harebell (=bellflower) (SLC)

Castilleja ambigua ssp. ambigua - salt marsh owl's clover (=johnny-nip) (SLC)

Cirsium andrewsii - Franciscan thistle (SC)

Cordylanthus nidularius - Mt. Diablo bird's-beak (SC)

Croton californicus - California croton (SLC)

Cryptantha hooveri - Hoover's cryptantha (SLC)

Delphinium californicum ssp. interius - interior California (Hospital Canyon) larkspur (SC)

Delphinium recurvatum - recurved larkspur (SC)

Dirca occidentalis - western leatherwood (SLC)

Eriogonum nudum var. decurrens - Ben Lomond buckwheat (= naked buckwheat) (SC)

Eriogonum truncatum - Contra Costa [=Mt. Diablo] buckwheat (SC)

Eryngium racemosum - delta coyote-thistle (=button-celery) (CA)

Fritillaria agrestis - stinkbells (SLC)

Fritillaria liliacea - fragrant fritillary (= prairie bells) (SC)

Galium andrewsii ssp. gatense - serpentine bedstraw (SLC)

Helianthella castanea - Diablo helianthella (=rock-rose) (SC)

Hemizonia parryi ssp. congdonii - Congdon's tarplant (SC)

Hesperolinon breweri - Brewer's dwarf-flax (=western flax) (SC)

Juglans californica var. hindsii - Northern California black walnut (SC)

Lathyrus jepsonii var. jepsonii - delta tule-pea (SC)

Lilaeopsis masonii - Mason's lilaeopsis (SC)

Malacothamnus hallii (=M. fasciculatus) - Hall's bush mallow (SLC)

Meconella oregana - Oregon meconella (=white fairypoppy) (SC)

Monardella villosa ssp globosa - robust monardella (=robust coyote mint) (SLC)

Myosurus minimus ssp. apus - little mousetail (SC)

Perideridia gairdneri ssp. gairdneri - Gairdner's yampah (SC)

Phacelia phacelioides - Mt. Diablo phacelia (SC)

Sanicula saxatilis - rock sanicle (SC)

Spartina foliosa - Pacific cordgrass (=California cordgrass) (SLC)

Streptanthus albidus ssp. peramoenus - most beautiful (uncommon) jewelflower (SC)

Streptanthus hispidus - Mt. Diablo jewelflower (SC)

Triquetrella californica - California triquetrella moss (SLC)

Key:

- (E) Endangered - Listed (in the Federal Register) as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (CA) Listed by the State of California but not by the Fish & Wildlife Service.
- (D) Delisted - Species will be monitored for 5 years.
- (SC) Species of Concern/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7Â½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist,

familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you should contact the California Department of Fish and Game Wildlife and Habitat Data Analysis Branch for official information about these species.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR Â§17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management

considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

Your list may contain a section called Species of Concern. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be November 30, 2005.

APPENDIX L WETLAND DELINEATION MAPPING

WATERS OF THE UNITED STATES
CALDECOTT TUNNEL 4TH BORE PROJECT
NORTH 2-LANE ALIGNMENT

SW = Wetlands
DW = Wetlands
IES = Waters of the U.S.
▬ ▬ = Project Study Area

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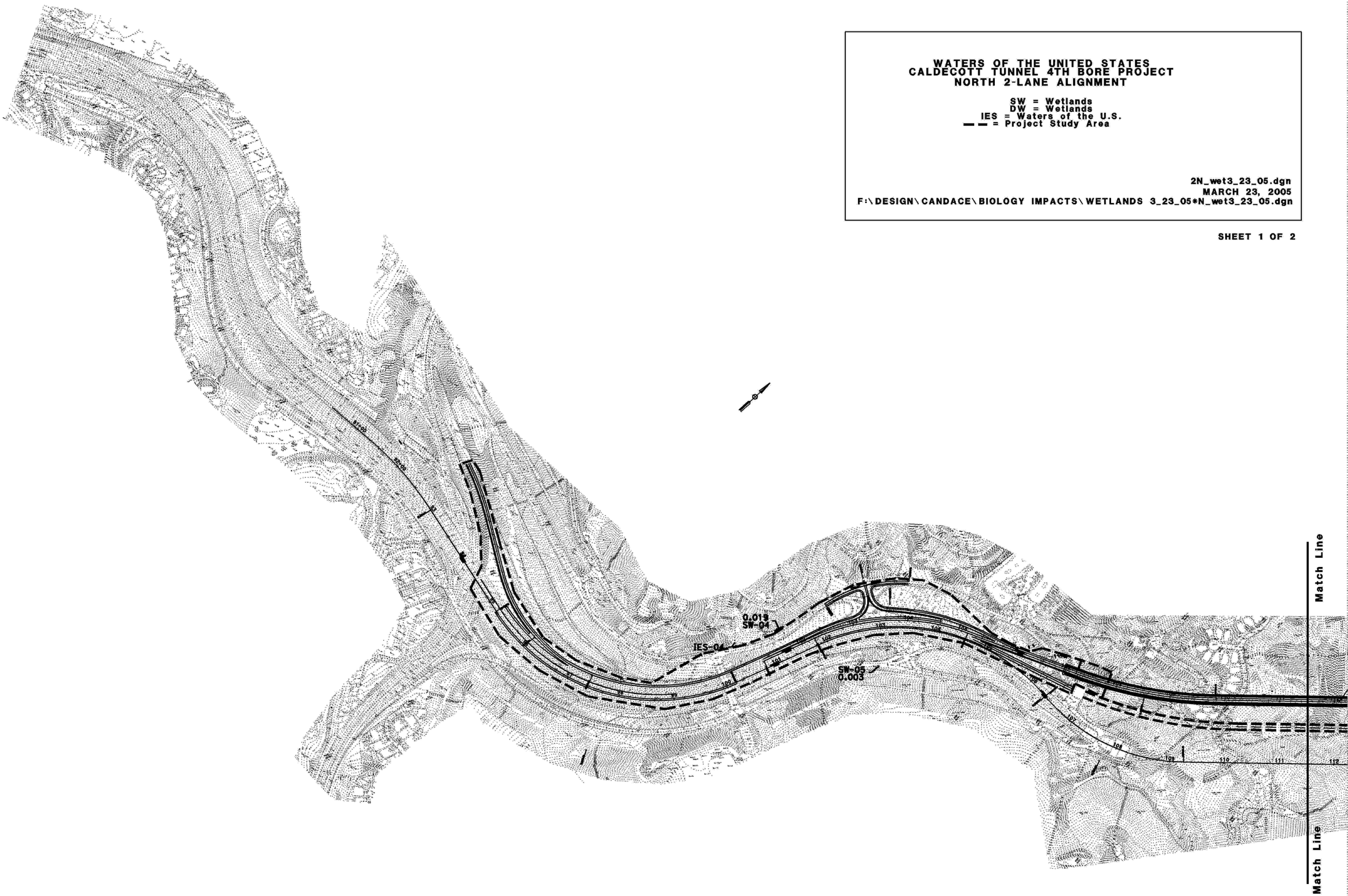

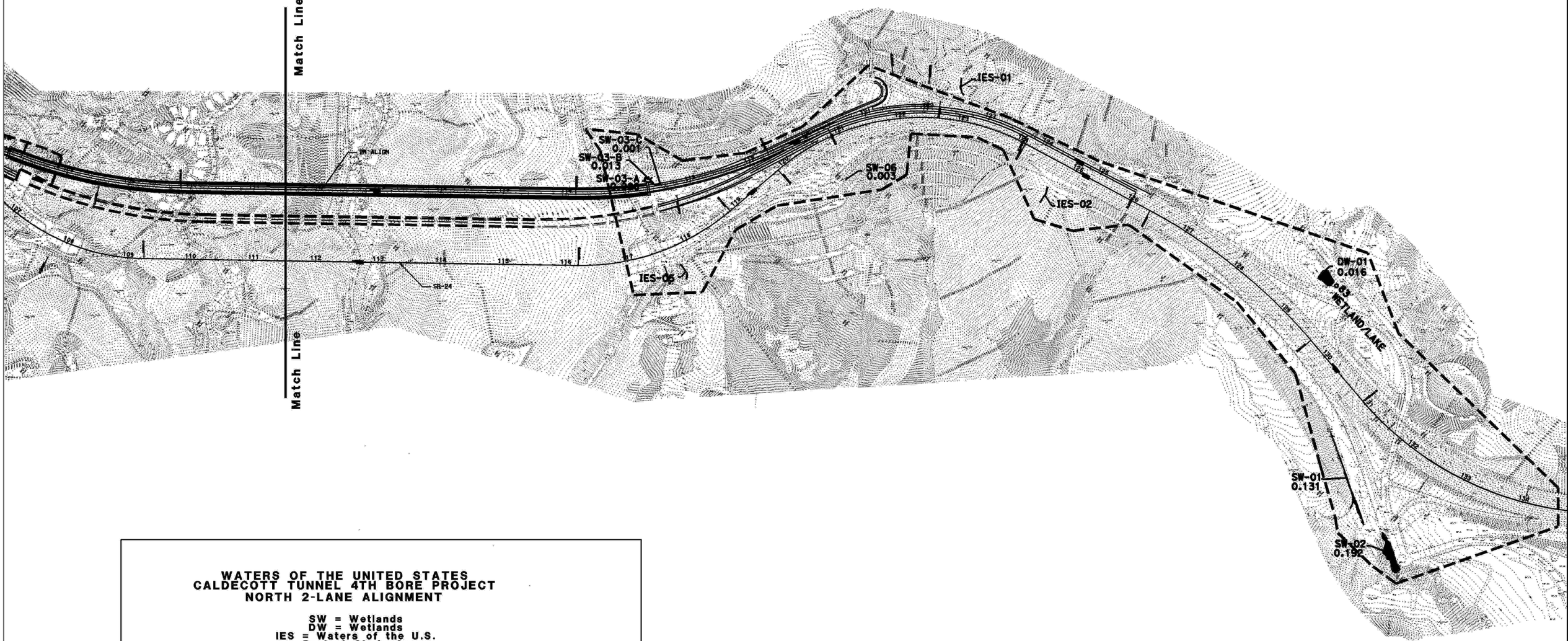

WATERS OF THE UNITED STATES
CALDECOTT TUNNEL 4TH BORE PROJECT
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